Final
Environmental Assessment

Wild Horse Island State Park
Tree Thinning Project

January 2007

Montana Fish, Wildlife & Parks

Final Environmental Assessment
MEPA, NEPA, MCA 23-1-110 CHECKLIST

PART I. PROPOSED ACTION DESCRIPTION

1. Type of proposed state action: The proposed action is to thin dense stands of younger-class ponderosa pine. By reducing density levels, forest health will be improved as trees become more vigorous and resistant to insects and diseases. Existing dense stands would be thinned by hand-cutting to promote more historic density levels. Small pockets of isolated, dense pine would be removed. Trees will be piled and burned on-site. The action will have other benefits including reduction of fuel loads, thereby lowering the risk of stand replacement fire, and will help restore native grasslands in some locations where they have been replaced or suppressed by ponderosa pine.

2. Agency authority for the proposed action:

MT Fish, Wildlife & Parks manages Wild Horse Island State Park under RCM 23-1-102, 23-1-107, 23-1-110, 23-1-116, and the Administrative Rules of Montana (ARM). ARM 12.8.102 (3) states that *management will be directed toward retention of state parks in as near a natural condition as possible without impairment of ecological features and values.*

State statutes 23-1-102 and 23-1-110 MCA guide public involvement and comment for the improvements at state parks and fishing access sites.

3. Name of project: Wild Horse Island State Park Tree Thinning Project

4. Name, address, and phone number of project sponsor(s) (if other than the agency):

Montana Fish, Wildlife & Parks

1420 East 6th Avenue	490 North Meridian Road
Helena, MT 59620	Kalispell, MT 59901
406-444-3750	406-752-5501

Department of Natural Resources and Conservation

1625 11th Ave.	PO Box 640
Helena, MT 59620	Polson, MT 59860

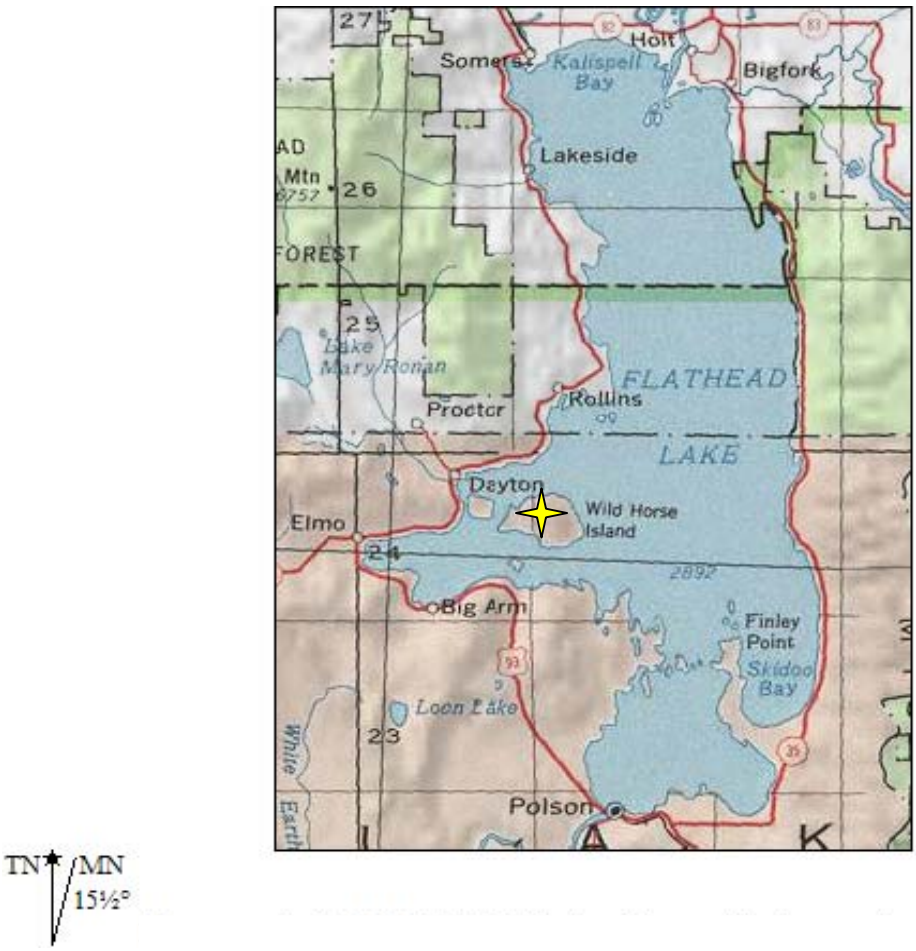
5. If applicable:

Estimated Construction/Commencement Date: Winter 2006-07
Estimated Completion Date: Fall 2008
Current Status of Project Design (% complete): 0%

6. Location affected by proposed action (county, range, and township):

Lake County, R21W, T24N

FIGURE 1. WILD HORSE ISLAND LOCATION MAP



7. Project size – estimate the number of acres that would be directly affected that are currently:

	Acres		Acres
(a) Developed:		(d) Floodplain	0
Residential	0		
Industrial	0	(e) Productive:	
		Irrigated cropland	0
(b) Open Space	100- 200	Dry cropland	0
Woodlands/Recreation		Forestry	0
(c) Wetlands/Riparian	0	Rangeland	0
Areas		Other	0

8. Listing of any other local, state, or federal agency that has overlapping or additional jurisdiction.

(a) Permits: Permits will be filed at least 2 weeks prior to project start.

Agency Name	Permit
Confederated Salish & Kootenai Tribes	Burning Permit (spring)

(b) Funding:

Agency Name	Funding Amount
Montana Department of Natural Resources and Conservation	$90,000 Western Bark Beetle Prevention and Suppression Grant

(c) Other overlapping or additional jurisdictional responsibilities:

Agency Name	Type of Responsibility
Montana State Historical Preservation Office	Archeological & Cultural Site Protection
Confederated Salish & Kootenai Tribes	Wildland Fire Suppression Shoreline Protection
Lake County	Planning and Zoning
Department of Environmental Quality	Air Quality (January-March)

9. Narrative summary of the proposed action or project, including the benefits and purpose of the proposed action:

Background

Wild Horse Island is located near Big Arm Bay on Flathead Lake (Fig. 1). It is situated within the exterior boundary of the Confederated Salish and Kootenai Tribes Reservation. Most of the island became a state park in 1978 through the cooperative efforts of the McDonald family, The Nature Conservancy, and the state. The island consists of 2,163 acres. When the island was transferred to state ownership, the previous owner retained possession of 54 lots ranging in size from ½ to 1 acre. These have since been sold to private interests. The lots are located along the perimeter of the island, with about half developed with summer homes.

Wild Horse Island boasts some of the best watchable wildlife opportunities in the state, with herds of bighorn sheep and mule deer, nesting bald eagles, osprey, and numerous species of songbirds. Additionally, to maintain its namesake tradition, the island has a small resident population of wild horses obtained through the Bureau of Land Management's "Adopt-a-Horse" program. Other inhabitants of the island include coyotes, badgers, squirrels, and other small mammals, with an occasional black bear and mountain lion. Another feature of interest includes a historic cabin and barn, and an apple and pear orchard dating back to the first homesteaders. The island contains one of the few remaining segments of native Palouse prairie to be found in Montana and is considered one of the best remaining examples of a Palouse prairie and ponderosa pine forest ecosystem in the western United States.

Proposal

Historically, fire occurrence for Wild Horse Island was thought to occur in approximately a 10-year fire cycle with a 5-20-year interval range (Barret, 1999). The consequence of periodic fire was a ponderosa pine-dominated forest ecosystem with savannah-like, open grassland features. However, due to total suppression policies, fire has not occurred with any significance for the past 100 years. This has resulted in forested area expansion,

species replacement, and changes in density of historic ponderosa pine stands. Douglas-fir has become dominant in some areas, especially on the north and east slopes, and is present as understory in many of the forested areas found on the island. Where ponderosa pine is still the primary species, thick stands of even-age-class trees have become prominent. The result is a denser, less vigorous stand that is more prone to insects and diseases.

A large zone of recent mountain pine beetle mortality (*Dendroctonus ponderosae*) is located on the south side of the island. Adjacent stands of noninfested trees are even-aged stands of high density and reduced vigor. Combined with past drought conditions, these areas are very susceptible to future bark beetle infestation. Fire has been suppressed over a long period of time, and consequently stands are overstocked and stressed, with a large buildup of fine fuel under the canopy that elevates the chance of stand replacement wildfire in this area. Additionally, the potential exists for an increase of the insect, pine engraver beetle (*Ips sp.*), that kills small-diameter trees and the tops of large-diameter ponderosa pine. This insect is already present on this island at endemic levels.

In 1999, an analysis of possible prescribed burn alternatives was developed (Barrett, 1999). In this study, areas of pine encroachment on grasslands were identified (Appendix A). In 2003, a pilot burn on one of the identified areas was conducted to determine the potential use of fire as a means of reducing younger ponderosa pine stand densities. Results indicated that fire by itself did not achieve the desired results primarily due to low flame intensity (WHI Burn Report, 2005). The report further states, "Early indications are that applied fire will need to be performed in conjunction with other management tools. In addition, the costs associated with preparing and conducting controlled burning activities and safeguards are prohibitive on a large scale at this time." As a result of the pilot study data, a proposal has been developed to help reduce stand densities by mechanically thinning areas of young ponderosa pine. These areas are found primarily in zones between the edges of older ponderosa pine stands and the prairie interface.

Example of ponderosa pine encroachment on grassland areas.

High tree densities lead to buildup of heavier fuels and greater potential for stand replacement fire and bug infestation and disease.

Approximately 150-200 acres are earmarked for potential treatment in the south, southeast, and west central areas of the island. (Appendix B). These areas generally correspond to those identified by Barrett in his prescribed burn analysis. The units are comprised of scattered, large ponderosa pine with dense stands of young growth along the interior edges of the zones. A few Douglas-fir are dispersed throughout, usually located in ravines and northerly exposures. The range of age classes include decadent monarchs of 250+ years, more vigorous pines of 150 years old in the upper level of the canopy, and slower-growing pine around 85 years old in the mid-level canopy. Areas that have openings in the canopy due to disturbances or are at the edges of existing stands are predominantly young ponderosa pine stands approximately 20-to-30 years old.

Typical density of young even-age PP stands

Treatment would focus on the 20-to-30-year-old or younger stands. These trees are generally less than 8 inches in diameter and would be too small to have commercial value by conventional standards. The goal is to thin these dense stands to a stocking level that would make these areas more resistant to bark beetle outbreaks in the future and reduce ladder fuels that provide the potential for fire to reach the canopy in adjacent older-age stands.

Benefits of the proposed action include healthier trees that are more resistant to insect and disease infestation and reduction of potential fuels, which will decrease the risk of stand replacement fire in adjacent mature stands. Additionally, reducing tree density to more historic levels will help open up more areas to native grasses, which have been suppressed by invading pine. This proposal is not an end solution and would not eliminate the entire even-age and density issues in the older-age stands, but would help reduce potential future insect and disease outbreaks in selected areas and may improve opportunities for limited use of fire in the future.

The current management plan states the overall management strategy for Wild Horse Island as follows:

"Wild Horse Island's natural qualities should be emphasized and conserved. The Palouse prairie and Douglas-fir/ponderosa pine forest ecosystems, rare plants, and present wildlife species should be preserved, and primitive, dispersed public recreation should be provided."

It is inferred from this strategy that healthy forests are a desirable outcome. The plan also states that one of the goals for island management is to "preserve and, to the greatest extent possible, restore the natural ecological processes and conditions that exist on the island." Although it is apparent that at present it would not be feasible to do everything that needs to be done as far as restoring natural conditions, it is anticipated that this project would be a step toward that end.

10. Description and analysis of reasonable alternatives (including the required no-action alternative) to the proposed action whenever alternatives are reasonably available and prudent to consider, and a comparison of the alternatives with the proposed action/preferred alternative:

Alternative 1 – No Action: This alternative would take no action to reduce young ponderosa pine stand densities. The result would be an increased risk of future bark beetle infestation in these stands and adjacent older stands, and a gradual decrease of open grasslands by pine replacement. Ponderosa pine stands, which have higher densities than would be found historically with periodic fire, would have less vigorous, stunted trees that would be more susceptible to disease. Higher stand densities and continued forest succession would also increase fuel loads and increase the risk of total stand replacement wildfire.

Alternative 2: The proposed action involves mechanically thinning identified areas in order to enhance forest health. Additional benefits include lowering the potential for stand replacement fire, and helping restore portions of native prairie. Thinning will involve hand-cutting with chain saws. Thinning in general will take a feathering approach.

At the edges, where the stands abut the grasslands, trees will be thinned to low densities of 40-60' basal area. The density of the trees will increase as they approach the more mature ponderosa pine stands with basal areas in the 100-120' range. Isolated pockets of dense, small pine where there is no continuity with existing older stands may be completely removed. Trees will be cut to ground level. All-terrain utility vehicles with small trailers may be used to help move downed trees and slash to selected locations for burning and to haul various types of hand tools and equipment. Trees and slash will be piled and burned at the most suitable locations and times. A chipper may be used to help with disposal of materials in zones where developed trails exist. Chips would be spread as surface material for existing hiking trails. In areas where few trees are removed, lop and scatter techniques will be utilized. Burning will occur primarily in late fall, but may occur during the winter or early spring if proper conditions are present and permits are obtained. Equipment will be barged to the island and stored on location during the project period. Most operations will occur between mid-October and the end of April. Hand-cutting and piling may begin as early as the first week in October, but will cease by the start up of the high use season in early May. The project will be conducted over a 2-year period beginning in the winter of 2006-07 and ending in 2007-08. Chipping and trail-surfacing may extend into early May. All disturbed areas will be reseeded with native grasses. Disturbed areas will be monitored for weeds and mechanically and/or chemically treated as necessary.

PART II. ENVIRONMENTAL CHECKLIST

PHYSICAL ENVIRONMENT. At the bottom of this "Land Resources" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on land resources. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects of the action as well as the long-term effects. Attach additional pages of narrative if needed.

1. LAND RESOURCES **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Soil instability or changes in geologic substructure?		X				
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil, which would reduce productivity or fertility?			X		Yes	1b.
c. Destruction, covering or modification of any unique geologic or physical features?		X				
d. Changes in siltation, deposition, or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?		X				
e. Exposure of people or property to earthquakes, landslides, ground failure, or other natural hazard?		X				
f. Other		X				

NARRATIVE DESCRIPTION AND EVALUATION:

1b. The proposed alternative would require that slash be burned at selected locations. These small areas, approximately 20' in diameter, would be negatively affected by the burning process. Soil may be sterilized, prohibiting growth of vegetation for a number of years. Some minor erosion may take place where no vegetation is present. To mitigate this situation, selection of burn locations will be focus on areas of limited slope and greatest biological resilience, or where severe soil impacts have already occurred and burning will have little additional effect. Areas will be monitored for invasive species and chemically treated if necessary. Native seed will be applied where soil conditions are suitable for regrowth.

PHYSICAL ENVIRONMENT. At the bottom of this "Air" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on air resources. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects of the action as well as the long-term effects. Attach additional pages of narrative if needed.

2. AIR **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Emission of air pollutants or deterioration of ambient air quality? (Also see 13c)			X		Yes	2a.
b. Creation of objectionable odors?		X				
c. Alteration of air movement, moisture, or temperature patterns, or any change in climate, either locally or regionally?		X				
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?		X				
e. Any discharge that will conflict with federal or state air quality regs?		X				2e.
f. Other		X				

NARRATIVE DESCRIPTION AND EVALUATION:

2a. Burning of slash piles will result in temporary effects on air quality. All burning will occur during periods when conditions are suitable for good air dispersion.

2e. All applicable air shed or burning permits will be acquired before any burning takes place.

PHYSICAL ENVIRONMENT. At the bottom of this "Water" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on water resources. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

3. WATER **Will the proposed action result in:**	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen, or turbidity?		X				
b. Changes in drainage patterns or the rate and amount of surface runoff?		X				
c. Alteration of the course or magnitude of floodwater or other flows?		X				3c.
d. Changes in the amount of surface water in any water body or creation of a new water body?		X				
e. Exposure of people or property to water-related hazards such as flooding?		X				
f. Changes in the quality of groundwater?		X				
g. Changes in the quantity of groundwater?		X				
h. Increase in risk of contamination of surface or groundwater?		X				
i. Effects on any existing water right or reservation?		X				
j. Effects on other water users as a result of any alteration in surface or groundwater quality?		X				
k. Effects on other users as a result of any alteration in surface or groundwater quantity?		X				
l. Effects to a designated floodplain?		X				
m. Any discharge that will affect federal or state water quality regulations?		X				
n. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

3c. Removal of isolated pockets of small pines in drainage bottoms may result in an increase of water magnitude in Type 3 intermittent streams. This is considered to be minor and an acceptable result.

No cumulative or secondary effects on major water sources are anticipated. The thinning will occur on the inland edges of the selected units up to where the targeted small-diameter trees meet the older stands of mature ponderosa pine. No thinning or burning will occur near the shoreline. Burn locations will not be selected in intermittent stream drainage bottoms.

PHYSICAL ENVIRONMENT. At the bottom of this "Vegetation" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on vegetative resources. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

4. VEGETATION Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Changes in the diversity, productivity, or abundance of plant species (including trees, shrubs, grass, crops, and aquatic plants)?			X			4a.
b. Alteration of a plant community?			X			4b.
c. Adverse effects on any unique, rare, threatened, or endangered species?		X				4c.
d. Reduction in acreage or productivity of any agricultural land?		X				
e. Establishment or spread of noxious weeds?			X		Yes	4e.
f. Effects to wetlands or prime and unique farmland?		X				
g. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

4a. Changes will occur to the density levels of the targeted small-diameter trees. In some treatment areas this may be upwards of 80% of existing stands. The impacts are considered positive, as this will reduce dense areas to more historic levels, thereby improving the health and vigor of remaining trees and making them more resistant to insect and disease infestations. As an added benefit, grasslands will correspondingly increase with the reduction of dense stands of targeted ponderosa pine. With the reduction of overhead cover, existing undergrowth is anticipated to regenerate. Where little undergrowth is present, opened areas will be reseeded with native species. To maintain the targeted density levels of treated areas, regeneration of seedling Pp will be curbed through an annual maintenance program to allow only a small percentage of seedlings to remain.

4b. Due to a feathering approach to thinning, plant communities on the outer edges of the treatment areas will be altered from a classification of forested ponderosa pine to grasslands. This is considered a positive effect as it meets the goal of improving overall forest health with additional benefit to native grasslands.

4c. Effects on location of burn piles to special plant communities will be mitigated by taking care to avoid locating piles where they are known to exist. Spalding's Catchfly, a federally listed endangered species, is present on the island in very limited quantities. Location's where Spalding's Catchfly plants have been identified are outside of the proposed treatment area.

4e. Sites where slash is burned will result in destruction to any existing vegetation and alteration of soil fertility. Soils may not be productive for 1-2 years. As the soil areas regain their fertility, there is a high probability that undesirable plant species will invade. These may include bull and Canada thistle, common mullein, or cheat grass. Affected sites will be monitored for invasive species and chemically treated if necessary. Native seed will be applied where soil conditions are suitable for regrowth. Burn areas will be no more than approximately 20 feet in diameter and will be located in areas of greatest biological resilience or where severe soil impacts have already occurred and burning will have little additional effect (e.g., interior area of old sheep trap).

PHYSICAL ENVIRONMENT. At the bottom of this "Fish/Wildlife" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on fish and wildlife resources. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed**.**

5. FISH/WILDLIFE Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Deterioration of critical fish or wildlife habitat?		X				5a.
b. Changes in the diversity or abundance of game animals or bird species?		X				
c. Changes in the diversity or abundance of nongame species?		X				
d. Introduction of new species into an area?		X				
e. Creation of a barrier to the migration or movement of animals?		X				
f. Adverse effects on any unique, rare, threatened, or endangered species?		X				
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest, or other human activity)?		X				
h. Adverse effects to threatened/endangered species or their habitat?		X				5h.
i. Introduction or exportation of any species not presently or historically occurring in the affected location?		X				
j. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

5a. This project will improve habitat for grassland species including big game in areas treated along the prairie/forest interface. Removal of dense young pines in selected locations will not significantly affect any species. Other large areas of dense cover will remain on the north and east portions of the island. No threatened or endangered species habitat will be affected. All thinning activity will be sufficiently away from the shoreline so as to have no effect.

5h. Two active eagle nests are located on the island. One is situated in the north-central area of the island and the other on the west side. Neither is located in the project zones. Nesting generally occurs from approximately the beginning of March, with fledglings having left the nest by mid-July. One of the thinning areas is located about ¼ mile from the north-central nest. Any work in this area will be done during the winter months prior to the nesting period. Other thinning areas are sufficiently far enough away to have no effect on nesting.

HUMAN ENVIRONMENT. At the bottom of this "Noise/Electrical Effects" checklist, provide a narrative description and evaluation of the cumulative and secondary effects of noise and electrical activities. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

6. NOISE/ELECTRICAL EFFECTS Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Increases in existing noise levels?			X		Yes	6a.
b. Exposure of people to severe or nuisance noise levels?			X		Yes	6b.
c. Creation of electrostatic or electromagnetic effects that could be detrimental to human health or property?		X				
d. Interference with radio or television reception and operation?		X				
e. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

6a. Existing noise levels will increase mainly due to chain saw use during cutting phases of the project. Use of all-terrain vehicles and a chipper will also increase noise levels. These will be temporary in nature and will occur in the off-season when visitation and occupancy of private cabins is very low.

6b. Workers will be exposed to intermittent noise levels that will require use of hearing protection.

HUMAN ENVIRONMENT. At the bottom of this "Land Use" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on land use. Even if you checked "none" in the table, explain how you came to that conclusion. Attach additional pages of narrative if needed. Consider the immediate, short-term effects as well as the long-term effects.

7. LAND USE Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?		X				
b. A conflict with a designated natural area or area of unusual scientific or educational importance?		X				
c. A conflict with any existing land use whose presence would constrain or potentially prohibit the proposed action?		X				
d. Adverse effects on, or relocation of, residences?		X				
e. Compliance with existing land policies for land use, transportation, and open space?		X				
f. Increased traffic hazards, traffic volume, or speed limits or effects on existing transportation facilities or patterns of movement of people and goods?		X				
g. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

No effects on current land use will occur due to this project. The project will help implement goals established in the 1994 management plan to preserve the overall health of the ponderosa pine forest ecosystem with the added benefit of contributing to the preservation of native grasslands by a reduction of encroachment. This project will promote more natural conditions through mechanical means rather than natural fire. Although it will not achieve all the benefits of natural fire occurrence, it will increase forest health through reduction in density levels and lessen the risk of bug infestation and disease outbreaks.

HUMAN ENVIRONMENT. At the bottom of this "Risk/Health Hazards" checklist, provide a narrative description and evaluation of the cumulative and secondary effects of risks and health hazards. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects of the action as well as the long-term effects. Attach additional pages of narrative if needed.

8. RISK/HEALTH HAZARDS Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Risk of an explosion or release of hazardous substances (including, but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or other forms of disruption?		X				
b. Effects on existing emergency response or emergency evacuation plan or create need for a new plan?		X				
c. Creation of any human health hazard or potential hazard?			X		X	8c.
d. Disturbance to any sites with known or potential deposits of hazardous materials?		X				
e. The use of any chemical toxicants?			X		X	8e.
f. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

8c. A temporary health hazard resulting from smoke could be experienced by people with respiratory illness. This hazard would be mitigated by burning during the period of lowest visitation and when weather conditions are most favorable. All applicable air shed and burn permits would be obtained.

There is a low risk of fire escaping from locations where slash is burned. Burn sites will have fire personnel on-site to monitor the process. Any significant surrounding flammable materials will be removed from the immediate area of the burn piles prior to ignition. Burning will occur only under favorable conditions. Fall burning will be emphasized for best control purposes.

8e. Follow-up monitoring of burn piles or other disturbed areas for noxious weeds may result in the use of herbicides for control and eradication. Two types of chemicals are currently used on the island. One is Weedmaster, a 2-4D compound for broadleaf control, and Eraser, a nonselective herbicide. Both have moderate toxicity ratings and are safe to humans entering an area once the liquid has dried. Because of the small amount of area and remoteness of the locations, sprayed areas should not normally be frequented by visitors. However, warning flags will be placed at any location where there is a likelihood that visitors could walk through a treated area.

HUMAN ENVIRONMENT. At the bottom of this "Community Impact" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on the community. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

9. COMMUNITY IMPACT Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?		X				
b. Alteration of the social structure of a community?		X				
c. Alteration of the level or distribution of employment or community or personal income?			X			9c.
d. Changes in industrial or commercial activity?		X				
e. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?		X				
f. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

9c. Although a minor impact as a whole, this project will require work to be done by outside sources. Hand crews will be procured through contract. Hiring may be temporary in nature, but will occur during the late fall and winter months when other types of employment opportunities have decreased or when layoffs for summer work have occurred. Effects will be localized, but considered a positive benefit to the surrounding community employment situation.

HUMAN ENVIRONMENT. At the bottom of this "Public Services/Taxes/Utilities" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on public services, taxes and utilities. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

10. PUBLIC SERVICES/TAXES/UTILITIES Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. An effect upon, or result in a need for new or altered, governmental services in any of the following areas: fire or police protection, schools, parks/recreational facilities, roads or other public maintenance, water supply, sewer or septic systems, solid waste disposal, health, or other governmental services? If so, specify:		X				
b. Effects on the local or state tax base and revenues?		X				
c. A need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?		X				
d. Increased used of any energy source?		X				
e. Other.		X				
Additional information requested:						
f. Define projected revenue sources.	10f.					
g. Define projected maintenance costs.	10g.					

NARRATIVE DESCRIPTION AND EVALUATION:

There will be no effect on public utilities or services. The island is predominantly an undeveloped state park that offers no services such as water, electricity, or other amenities. The only foreseen use of governmental services is the need for standby fire protection during the burning of the slash piles. Department of Natural Resources and Conservation personnel, or those who are contracted by DNRC, will provide fire protection service.

10f. Funding for the project will be provided through the Federal Western Bark Beetle Prevention and Suppression Grant administered by the Department of Natural Resources and Conservation. Approximately $90,000 is available to fund the project.

10 g. Annual maintenance costs will be determined by the extent of any invasive weeds in disturbed areas. These areas should be confined to burn pile locations and will be checked annually. All areas could be treated in 2-3 days by 1-2 seasonal staff. If treatment is necessary, the projected cost is estimated to be $400 per year for chemicals and labor in the first 2 years, with costs decreasing in subsequent years as native species regenerate and become dominant.

HUMAN ENVIRONMENT. At the bottom of this "Aesthetics/Recreation" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on aesthetics & recreation. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

11. AESTHETICS/RECREATION Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?			X		Yes	11a.
b. Alteration of the aesthetic character of a community or neighborhood?		X				
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings? (Attach Tourism Report)		X				
d. Adverse effects to any designated or proposed wild or scenic rivers, trails or wilderness areas?		X				
e. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

11a. The results of thinning will present a different view of the perimeter of the grassland areas. Instead of dense stands of small pine with a fairly distinct boundary between forest and grassland, there will be a gradual feathering along grassland outer edges with pine density increasing toward the established older forest stands. This will be a positive effect on aesthetics as the view will be one of a more natural condition.

Where slash has been burned, there will be a blackened area of rock and soil. This will be temporary in nature until revegetation efforts or weathering returns the sites to their original appearance. To mitigate the effects, slash areas will be located as much out of view as possible. Blackened rock areas will be covered with soil and surrounding unburned vegetative debris to lessen the visual impact. Some areas may require a layer of topsoil to help reestablish vegetation more quickly. Native seed will be used. All larger chunks of partially burned wood or charcoal will be removed from the island. Smaller pieces may be scattered.

In some areas, cut trees may be piled and left to dry for one summer prior to burning in the late fall. This is especially true for the first phase of the project since it will not begin until winter of 2007, although if conditions are considered favorable, limited burning may occur in spring. The unburned piles will have a visual impact on the surrounding landscape. To mitigate, piles will be located so as to be as much out of the normal vista as possible and out of sight from developed hiking trails. Piles will be temporary in nature and burned the subsequent fall.

11c. There will be no impact on tourism opportunities at the site. See Appendix D for the Tourism Report.

HUMAN ENVIRONMENT. At the bottom of this "Cultural/historical Resources" checklist, provide a narrative description and evaluation of the cumulative and secondary effects on cultural/historical resources. Even if you checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

12. CULTURAL/HISTORICAL RESOURCES Will the proposed action result in:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?		X				
b. Physical changes that would affect unique cultural values?		X				
c. Effects on existing religious or sacred uses of a site or area?		X				
d. Adverse effects to historic or cultural resources?		X				
e. Other:		X				

NARRATIVE DESCRIPTION AND EVALUATION:

No effects on historical or cultural resources are anticipated. Currently identified historical structures on the island are not directly located in the treatment areas. No known cultural resources have been identified in the areas of thinning. Tribal and state archaeological and cultural specialists will be consulted prior to the start of the project. The existing Indian peel trees in the Skeeko Bay area will not be affected, as no thinning will occur in close proximity to any of these trees.

HUMAN ENVIRONMENT. At the bottom of this "Summary Evaluation of Significance" checklist, provide a narrative description and evaluation of the cumulative and secondary effects. Even if you have checked "none" in the table, explain how you came to that conclusion. Consider the immediate, short-term effects as well as the long-term effects. Attach additional pages of narrative if needed.

13. SUMMARY EVALUATION OF SIGNIFICANCE Will the proposed action, considered as a whole:	IMPACT				Can Impact Be Mitigated	Comment Index
	Unknown	None	Minor	Potentially Significant		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources, which create a significant effect when considered together or in total.)		X				
b. Involve potential risks or adverse effects, which are uncertain but extremely hazardous if they were to occur?			X		Yes	13b.
c. Potentially conflict with the substantive requirements of any local, state, or federal law, regulation, standard or formal plan?		X				
d. Establish a precedent or likelihood that future actions with significant environmental impacts will be proposed?			X			13d.
e. Generate substantial debate or controversy about the nature of the impacts that would be created?		X				
f. Have organized opposition or generate substantial public controversy?		X				
Additional information requested:						
g. List any federal or state permits required.						

NARRATIVE DESCRIPTION AND EVALUATION:

13b. The potential for fire to escape when slash piles are burned is always a possibility. Although considered a minor risk, precautions will be taken to ensure burning occurs only under suitable conditions and in areas where surrounding potential fuels are minimal. Burning will primarily be done in the late fall for control purposes. Additionally, sufficient personnel will be on hand to monitor burn locations. Local fire officials will be notified when burning occurs.

13d According to the 1994 management plan, mechanical thinning will be utilized to help reduce encroachment of young pines on the edges of grassland areas. In 1996, thinning occurred in the area near the compost toilet between Skeeko Bay and the historic homestead structures. This amounted to only about 2-3 acres. Due to lack of funds and staffing, none has occurred since. This project is not considered a precedent since it is a continuation of previous thinning efforts, although on a larger scale and with a healthy forest emphasis. If, when completed, results indicate that this is a cost-effective approach to improving forest health, other areas may be selected for thinning in the future.

See next page, Part III, Section 1, for discussion of cumulative and secondary effects.

PART III. ENVIRONMENTAL CHECKLIST CONCLUSION SECTION

1. Discuss the cumulative and secondary effects of this project as a whole:

There will be no negative cumulative effects of the project. Positive effects will be the reduction of dense stands of young pine, which have the potential to contribute to bark beetle infestations in the future due to their weakened condition from intense competition for moisture and nutrients. In turn, this places older stands at higher risk for bark beetle outbreaks. Additionally, the dense stands contribute to fuel loads and encroach on native grasslands. The project follows management goals to maintain healthy forests and preserve native grasslands and to manage resources to effect a state as near to that of historic natural conditions as possible. Current conditions are not considered the natural state due to lack of periodic fire and past human practices. Since the use of fire as a tool is limited, mechanical thinning is considered a better alternative.

Secondary effects include the possibility of noxious weed infestation where slash piles have been burned. This impact can be mitigated through seeding with native grasses and chemical treatment of locations if necessary. Since the impacted sites will be small, these areas can be monitored annually until satisfactory conditions are obtained.

2. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

Work will occur during the off-season from mid fall through early spring to lessen ground disturbance and to avoid disturbance to visitors. Cutting will be by hand with chain saws. Only ATV-type vehicles with small trailers will be utilized.

To lessen aesthetic impacts, stumps will be cut to ground level. Burn-pile locations will be selected in areas of greatest biological resilience, or where severe soil impacts have already occurred and burning will have little additional effect and as much out-of-normal views as possible. Areas may be raked and covered with topsoil to minimize visual effects. Areas will be monitored for noxious weeds or invasive species. Disturbed areas will be reseeded with native seed.

No burning, cutting, or other operations will occur within a quarter mile of known eagle nests beyond February 15.

PART IV. PUBLIC PARTICIPATION

1. Describe the public involvement for this project:

The public was notified in the following manners to comment on this current draft EA, the proposed action, and alternatives:

- Two public notices in each of these papers: *Helena Independent Record, Daily Inter Lake,* and the *Lake County Leader;*
- One statewide press release; and

- Public notice on the Fish, Wildlife & Parks web page: *http://fwp.mt.gov*.

Copies of this environmental assessment were made available to the neighboring landowners and interested parties to ensure their knowledge of the proposed project.

This level of public notice and participation is appropriate for a project of this scope, having few minor impacts, many of which can be mitigated.

2. What was the duration of the public comment period?

The public comment period extended for (30) thirty days following the publication of the second legal notice in area newspapers. Written comments were accepted until 5:00 p.m., December 2, 2006, and could be mailed to the following address:

Wild Horse Island Forest Thinning Project
Montana Fish, Wildlife & Parks
Region 1 Headquarters
490 N. Meridian Road
Kalispell, MT 59901

Or e-mail comments to: jsawyer@mt.gov

PART V. EA PREPARATION

1. Based on the significance criteria evaluated in this environmental checklist (Part II), is an EIS required?

YES _____

NO X

If an EIS is not required, explain why the current checklist level of review is appropriate.

Based on the criteria provided by MEPA Model Rule III to assess if an EIS is required, this environmental review revealed that no significant negative impacts will be created from the proposed action. Therefore, an EIS is not necessary, and an EA is the appropriate level of analysis.

2. Name, title, address, and phone number of the person(s) responsible for preparing the EA:

Jerry Sawyer, Park Manager, Flathead Lake State Park
Montana Fish, Wildlife & Parks
490 N. Meridian Road
Kalispell, MT 59901
406-752-5501

3. List of agencies consulted during preparation of this environmental checklist:

Montana Department of Natural Resources and Conservation
Confederated Salish & Kootenai Tribes of the Flathead Nation
Montana Fish, Wildlife & Parks
    Parks Division
    Wildlife Division
    Fisheries Division
Legal Bureau
Montana State Historic Preservation Office (SHPO)
Montana Department of Commerce – Tourism

References

Barret, Stephen 1999. AN ANALYSIS OF TWELVE PRESCRIBED FIRE ALTERNATIVES FOR WILD HORSE ISLAND STATE PARK, MONTANA, FINAL REPORT, DECEMBER 1999.

Wild Horse Island (WHI) Burn 2005 Final Report

Appendices

A. Tree Encroachment Zones
B. Areas Targeted for Thinning
C. MCA 23-1-110 Qualification Checklist
D. Tourism Report
E. Clearance Letter – State Historic Preservation Office

GLOSSARY OF TERMS

Affected Environment – The aspects of the human environment that may change as a result of an agency action.

Alternative – A different approach to achieve the same objective or result as the proposed action.

Basal Area – (a) Of a tree: the cross-sectional area (in square feet) of the trunk at breast height (4½ feet above the ground) For example, the basal area of a tree 14" in diameter at breast height is about 1 square foot. Basal area = 0.005454 times diameter squared. (b) Of an acre of forest: the sum of basal area of the individual trees on the area. For example, a well-stocked pine stand might contain 80-to-120 square feet of basal area per acre.

Categorical Exclusion – A level of environmental review for agency action that does not individually, collectively, or cumulatively cause significant impacts to the human environment, as determined by rulemaking or programmatic review, and for which an EA or EIS is not required.

Cumulative Impacts – Impacts to the human environment that, individually, may be minor for a specific project, but, when considered in relation to other actions, may result in significant impacts.

Direct Impacts – Primary impacts that have a direct cause and effect relationship with a specific action, i.e., they occur at the same time and place as the action that causes the impact.

Environmental Assessment (EA) – The appropriate level of environmental review for action that either does not significantly affect the human environment or for which the agency is uncertain whether an environmental impact statement (EIS) is required.

Environmental Assessment Checklist – An EA checklist is a standard form of an EA, developed by an agency for actions that generally produce minimal impacts.

Environmental Impact Statement (EIS) – A comprehensive evaluation of the impacts to the human environment that likely would result from an agency action or reasonable alternatives to that action. An EIS also serves a public disclosure of agency decision-making. Typically, an EIS is prepared in two steps. The draft EIS is a preliminary, detailed, written statement that facilitates public review and comment. The final EIS is a completed, written statement that includes a summary of major conclusions and supporting information from the draft EIS, responses to substantive comments received on the draft EIS, a list of all comments on the draft EIS, and any revisions made to the draft EIS and an explanation of the agency's reasons for its decision.

Environmental Review – An evaluation, prepared in compliance with the provisions of MEPA and the MEPA Model Rules, of the impacts to the human environment that may result as a consequence of an agency action.

Human Environment – Those attributes, including but not limited to biological, physical, social, economic, cultural, and aesthetic factors, that interrelate to form the environment.

Long-term Impact – An impact, which lasts well beyond the period of the initial project.

Mitigated Environmental Assessment – The appropriate level of environmental review for actions that normally would require an EIS, except that the state agency can impose designs, enforceable controls, or stipulations to reduce the otherwise significant impacts to below the level of significance. A mitigated EA must demonstrate that: (1) all impacts have been identified, (2) all impacts can be mitigated below the level of significance, and (3) no significant impact is likely to occur.

Mitigation – An enforceable measure(s), designed to reduce or prevent undesirable effects or impacts of the proposed action.

National Environmental Policy Act (NEPA) – The federal counterpart of MEPA that applies only to federal actions.

No-action Alternative – An alternative, required by the MEPA Model Rules for purposes of analysis, that describes the agency action that would result in the least change to the human environment.

Public Participation – The process by which an agency includes interested and affected individuals, organizations, and agencies in decision-making.

Record of Decision – Concise public notice that announces the agency's decision, explains the reason for that decision, and describes any special conditions related to implementation of the decision.

Scoping – The process, including public participation, that an agency uses to define the scope of the environmental review.

Secondary Impacts – Impacts to the human environment that are indirectly related to the agency action, i.e., they are induced by a direct impact and occur at a later time or distance from the triggering action.

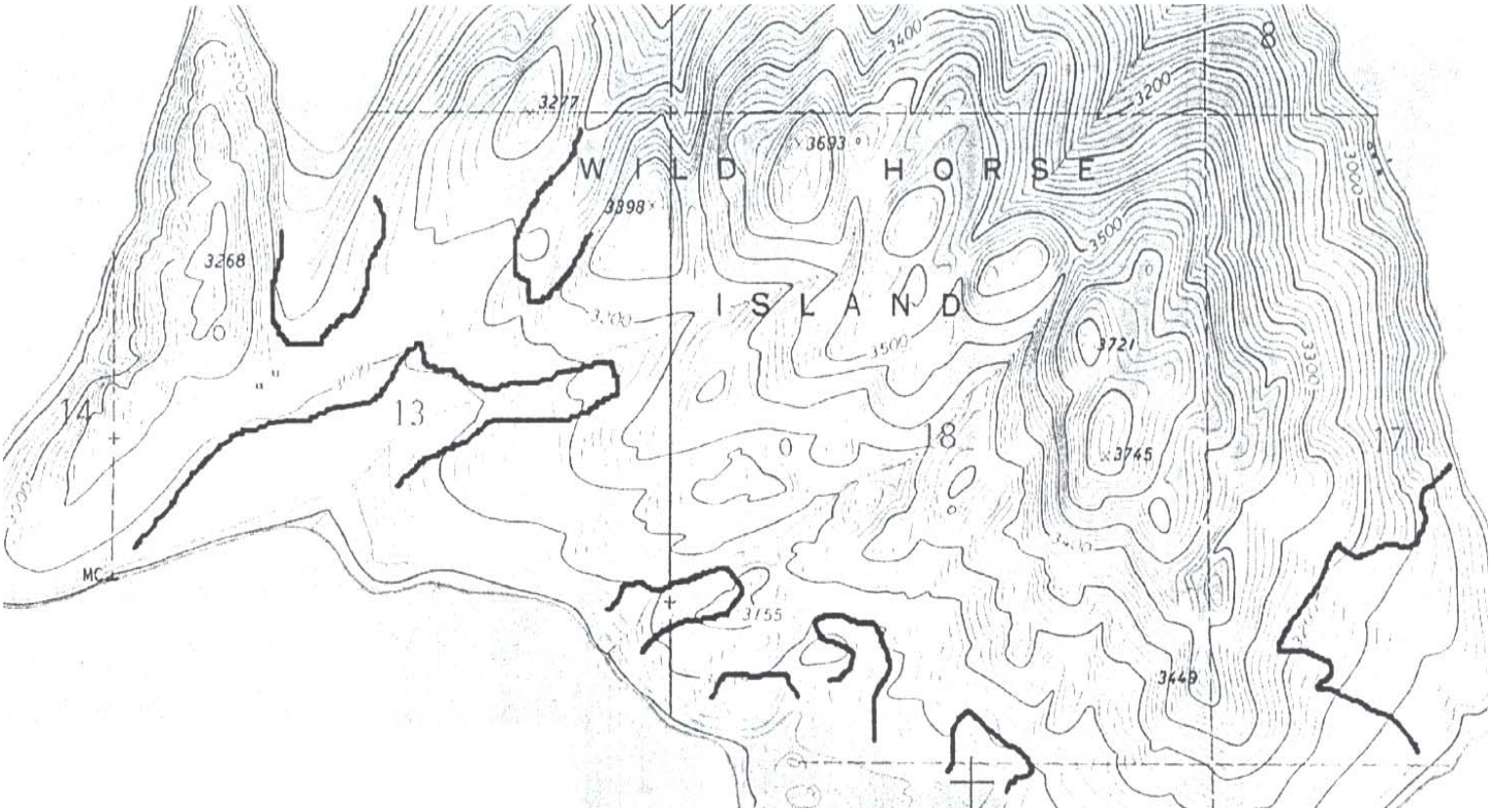
Short-term Impact – An impact directly associated with a project that is of relatively short duration.

Significance – The process of determining whether the impacts of a proposed action are serious enough to warrant the preparation of an EIS. An impact may be adverse, beneficial, or both. If none of the adverse impacts are significant, an EIS is not required.

Supplemental Review – A modification of a previous environmental review document (EA or EIS) based on changes in the proposed action, the discovery of new information, or the need for additional evaluation.

Tiering – Preparing an environmental review by focusing specifically on narrow scope of issues because the broader scope of issues were adequately addressed in previous environmental review document(s) that may be incorporated by reference.

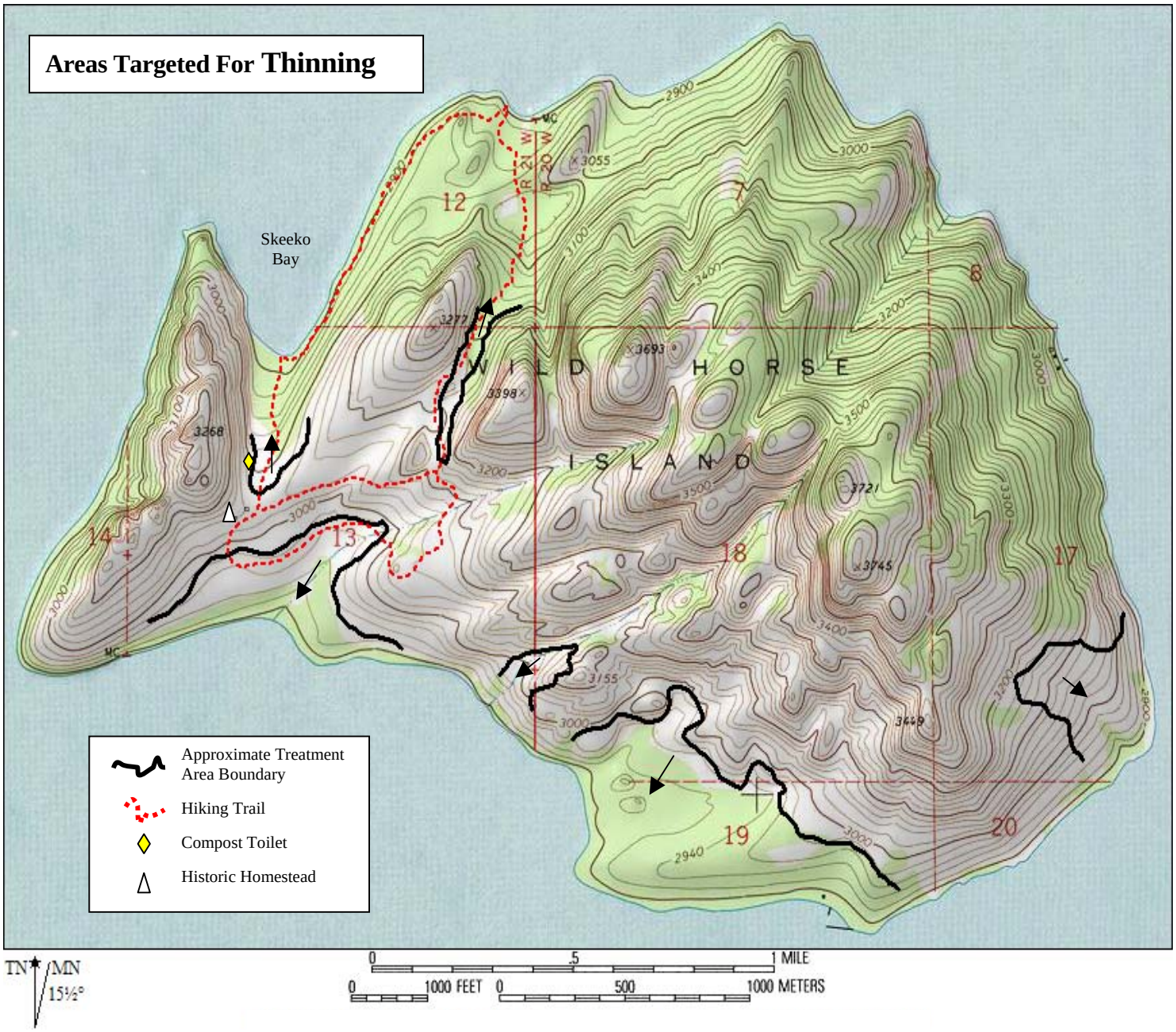
Appendix A



Tree encroachment zones (in black)

(From Barrett, An Analysis of Twelve Prescribed Burn Alternatives For Wild Horse Island, 1999)

Appendix B



Treatment area boundaries are approximate. Most stands of dense pines begin along the delineated lines of the area. Some small, isolated pockets exist outside the areas and would be treated. Feathering would begin at the delineated edges and progress toward the shoreline (direction marked by arrows) until mature stands are encountered.

Appendix C

23-1-110 MCA
PROJECT QUALIFICATION CHECKLIST

Date: September 25, 2006 **Person Reviewing:** Jerry Sawyer

Project Location: Wild Horse Island Timber Thinning Project

Description of Proposed Work:

The following checklist is intended to be a guide for determining whether a proposed development or improvement is of enough significance to fall under 23-1-110 rules. (Please check (✓) all that apply, and comment as necessary.)

[ ] A. New roadway or trail built over undisturbed land?
Comments:

[ ] B. New building construction (buildings <100 sf and vault latrines exempt)?
Comments:

[ ] C. Any excavation of 20 c.y. or greater?
Comments:

[ ] D. New parking lots built over undisturbed land or expansion of existing lot that increases parking capacity by 25% or more?
Comments:

[ ] E. Any new shoreline alteration that exceeds a doublewide boat ramp or handicapped fishing station?
Comments:

[ ] F. Any new construction into lakes, reservoirs, or streams?
Comments:

[ ] G. Any new construction in an area with National Registry-quality cultural artifacts (as determined by State Historical Preservation Office)?
Comments*: N0 – SHPO concurrence obtained and confirmation for the Confederated Salish and Kootenai Tribes.*

[ ] H. Any new above ground utility lines?
Comments:

[ ] I. Any increase or decrease in campsites of 25% or more of an existing number of campsites?
Comments:

[✓] J. Proposed project significantly changes the existing features or use pattern; including effects of a series of individual projects?
Comments: *Existing visual landscape features will change in the selected locations. Dense stands of young ponderosa pine will be thinned and in some instances, due to distances between remaining trees, this will appear as a significant change to the existing visual landscape. Some areas would change from forest to grassland classification.*

If any of the above are checked, 23-1-110 MCA rules apply to this proposed work and should be documented on the MEPA/HB495 CHECKLIST. Refer to MEPA/HB495 Cross Reference Summary for further assistance.

Appendix D

Tourism Report

TOURISM REPORT
MONTANA ENVIRONMENTAL POLICY ACT (MEPA) & MCA 23-1-110

The Montana Department of Fish, Wildlife and Parks has initiated the review process as mandated by MCA 23-1-110 and the Montana Environmental Policy Act in its consideration of the project described below. As part of the review process, input and comments are being solicited. Please complete the project name and project description portions and submit this form to:

Victor Bjornberg, Tourism Development Coordinator
Travel Montana-Department of Commerce
PO Box 200533
1424 9th Ave.
Helena, MT 59620-0533

Project Name: Wild Horse Island Healthy Forest Thinning Project

Project Description: For the purpose of improving the island's forest health and grassland conditions by thinning of selected areas of young stands of ponderosa pine. This would help reduce the risk of future bug and disease infestations of these stands and reclaim native Palouse prairie grasslands that have been reduced by encroachment of ponderosa pine.

No effects on historical or cultural resources are anticipated. Current identified historical structures on the island are not directly in the treatment areas.

1. Would this site development project have an impact on the tourism economy?
   NO (circled) YES If YES, briefly describe:

2. Does this impending improvement alter the quality or quantity of recreation/tourism opportunities and settings?
   NO (circled) YES If YES, briefly describe:

Signature Victor A Bjornberg Date 10-11-06

2/93
Revised

Appendix E

SHPO Request Form Report

From: Murdo, Damon
Sent: Tuesday, October 10, 2006 2:30 PM
To: Ivy, Nancy
Subject: RE: SHPO Request Form

October 10, 2006

Nancy Ivy
FWP
490 N Meridian Rd
Kalispell MT 59901

RE: WILD HORSE ISLAND FOREST PROJECT. SHPO Project #: 2006101007

Dear Nancy:

I have conducted a cultural resource file search for the above-cited project. According to our records there have been a few previously recorded sites within the designated search locales. In addition to the sites there have been a few previously conducted cultural resource inventories done in the areas. If you would like any further information regarding these sites or reports you may contact me at the number listed below.

Because this project is located on the Flathead Reservation we would ask that you contact the CSKT Preservation Department for any concerns that they may have regarding this project. They may be reached at PO Box 278, Pablo MT 59855. Thank you for consulting with us.

If you have any further questions or comments you may contact me at (406) 444-7767 or by e-mail at dmurdo@mt.gov <mailto:dmurdo@mt.gov>.

Sincerely,

Damon Murdo
Cultural Records Manager

cc: CSKT Preservation Dept.

File: FWP/PARKS/2006